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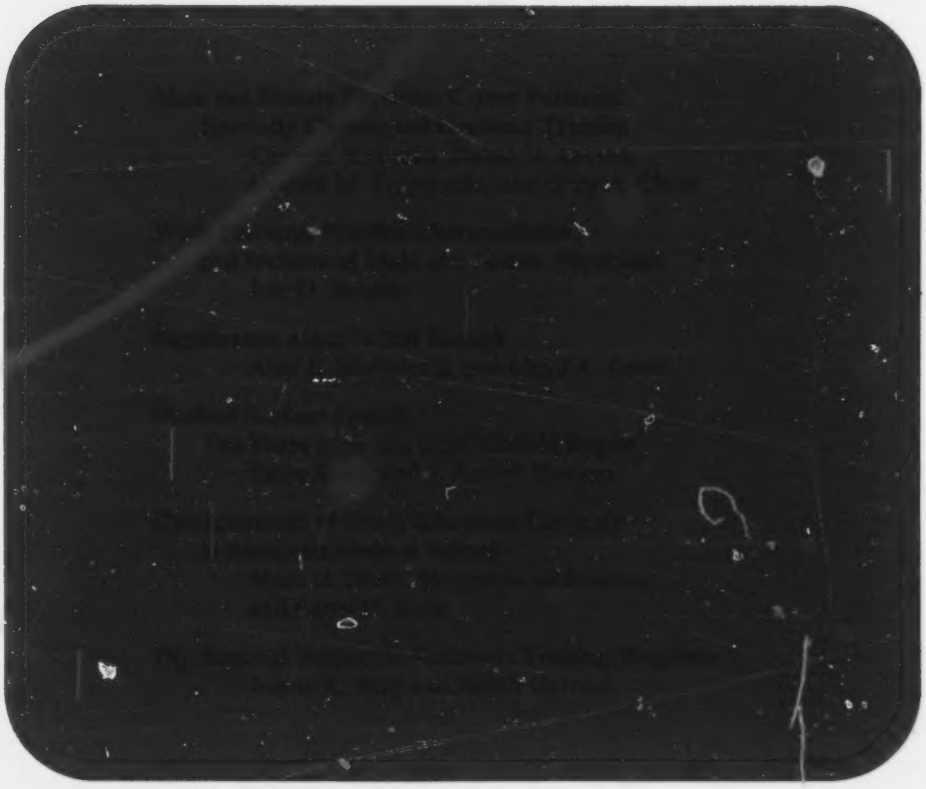
Vol. 55 No. 10 October 1980

JOURNAL OF

Medical Education

PUBLICATION OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES



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Journal of Medical Education

Volume 55 • Number 10 • October 1980

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Male and Female Physician Career Patterns: Specialty Choices and Graduate Training

Carol S. Weisman, Ph.D., David M. Levine, M.D., Sc.D., Donald M. Steinwachs, Ph.D., and Gary A. Chase, Ph.D.

Abstract—During the decade of the seventies the proportion of entering U.S. medical school classes consisting of women increased from 9 to 25 percent. National data on 74,265 physicians from seven graduation cohorts (1970 to 1976) reveal that this phenomenon has resulted in a trend toward convergence of male and female career patterns in several important areas: specialty choice during graduate medical education, patterns of switching specialties and subspecialization, and duration of graduate medical training. In addition, whereas both sexes show an increased tendency to select general internal medicine and family practice, the lower rate at which women subspecialize within pediatrics and the increasing rate at which they select obstetrics/gynecology suggest a shifting orientation toward primary care among women.

Women entering U.S. medical schools have increased from less than 10 percent of the class a decade ago to 25 percent of current entering classes (Table 1). The increasing proportion of women raises several questions about the future profile of the medical profession, including issues of specialty distribution and productivity. Several authors have projected changes in the practice of medicine due to the divergent behavior of women as they progress through medical education and into practice. This study reveals that, on the contrary, as the proportion of women physicians increases, the behavior of men and women tends to converge to the prevailing norms of the profession.

The conventional expectation that increasing numbers of women will significantly alter the character of the medical profession is based on observations of sex differences in specialty choices and patterns of practice among physicians of the past. Historically, women physicians in the United States have tended to be over represented in pediatrics and psychiatry and notably underrepresented in surgery and the surgical subspecialties (4). If these patterns were to continue as more women enter the physician pool, one might expect a greater proportion of primary care providers and proportionately fewer surgeons. However, recent data pertaining to specialty preferences and choices in various samples suggest the diminution of sex dif-

This research was supported in part by contract HRA-232-78-0161 with the Division of Medicine, Bureau of Health Manpower, Health Resources Administration.

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TABLE 1

Enrollment of Women in U.S. Medical Schools, 1968–1978

First-Year Class	No. of Women Enrolled	Percent of Total Class	Percent Increase from Previous Year
1968–69*	887	9.0	—
1969–70*	948	9.1	6.88
1970–71*	1,256	11.1	32.49
1971–72*	1,693	13.7	34.79
1972–73*	2,284	16.8	34.91
1973–74†	2,790	19.7	22.15
1974–75†	3,275	22.2	17.38
1975–76†	3,647	23.8	11.36
1976–77†	3,858	24.7	5.78
1977–78†	4,130	25.6	7.05
1978–79‡	4,162	25.2	0.77

* Source: W. F. Dube (1).

† Source: M. F. Ackerman (2).

‡ Source: D. G. Johnson and T. L. Gordon (3).

ferences (5, 6). To date, no comprehensive analysis of trends in specialty selection among men and women is available.

On the issue of productivity, women physicians in the past have been observed to have higher inactivity rates than men, leave residency training more often, and practice medicine for fewer hours per week and for fewer years (7–9). Recent investigations, however, suggest that since the activity levels of male and female physicians are converging, the experience of the past should not be used as the basis for projections of future physician productivity or for planning purposes (5, 10).

A theoretical basis for expecting convergence of male and female career patterns among physicians exists in the sociological literature. Kanter (11) has argued that shifts in the proportional representation of social groups within organizations alter the behavior of members. Specifically, she observed the behavior of men and women in professional and managerial roles within a corporation and concluded that when women constitute a small minority, they tend to be highly differentiated as "tokens" and encapsulated in limited roles. As their proportion increases, women tend to be integrated into the group as members in their own right.

Kanter describes four types of groups in which the relative numbers of men and women result in different social contexts and patterns of behavior: "uniform groups," consisting of only one sex, a socially undifferentiated group; "skewed groups," with a large preponderance of one sex (for example, 85 percent men and 15 percent women); "tilted groups," with less skewed distributions but still a majority and minority evident (for example, 65 percent men and 35 percent women); and "balanced groups," in which the sexes are represented in approximately equal proportions.

In skewed groups the numerically dominant subgroup tends to control the culture and social interactions. Consequently, tokens tend to be behaviorally differentiated from the dominant subgroup. In tilted groups the minority becomes a more powerful constituency as its greater size affords the opportunity to influence the group. Members of the minority begin to develop as much behavioral variation among themselves as between them and the majority. Finally, in balanced groups individuals tend not to be differentiated on the basis of identification with the subgroup alone.

The current situation in the medical profession appears to reflect a transition from a skewed to a tilted system. Women in medicine are no longer tokens but have become a sizable minority in recent medical school cohorts. Their greater visibility and ability to influence the profession or the medical school culture would be expected to reduce overt or covert discriminatory practices and to expose them to opportunities and incentives more similar to that of men. The behavior of men and women, therefore, would tend to become more similar.

Methods

The present study is designed to test the convergence hypothesis using data on seven cohorts of U.S. medical school graduates for the years 1970 through 1976, a period in which the proportion of graduating classes that was female nearly doubled, rising from 9 to 16 percent. During the decade of the seventies the context in which these graduates were being educated was undergoing the transition from a skewed to tilted system, as described earlier.

The data for the study were obtained from the American Medical Association. The data set combines two types of information: self-reported demographic, educational, and practice data from surveys of Physicians' Professional Activities and data supplied by hospitals reporting all physicians enrolled in approved residency programs on a yearly basis. Data are available for all approved residency programs and all 74,265 U.S. medical graduates entering graduate medical education between 1970 and 1976.

The information was compiled up to and including the 1977–78 academic year and includes the specialty area of each year of graduate medical education, the frequency of specialty migration (through switching or subspecializing), and several indicators of the timing with which individuals complete graduate medical education. The latter include the total number of years in graduate medical education (GME) and the number and duration of gaps in training. Examination of sex differences in these variables across seven cohorts will serve as a test of the convergence hypothesis.

Findings

Choice of specialty for the first year of graduate medical education is the first area in which to compare men and women across the seven cohorts. In 1974 the designation of the first year of GME changed from "internship" to either categorical designations by specialty area or "flexible internship." To facilitate comparisons across the cohorts, all pre-1974 internships have been classified into their categorical areas whenever possible and designated as flexible internships in the remaining cases.

Table 2 shows the percentages of men and women entering each specialty in the first year of GME. Among 1970 graduates, the most frequently selected area (other than flexible internship) among men was internal medicine and the most frequently selected among women was pediatrics. By 1976 both men and women were selecting internal medicine most often. Overall convergence in Table 2 was tested using a chi-square statistic, and the convergence hypothesis was upheld.

To perform the formal statistical test of convergence of the male and female distributions, the specialties were grouped into nine areas by combining source specialties with their subspecialties, specialties sharing the same certifying boards (psychiatry and neurology), and three infrequently chosen specialties with similar practice patterns (anesthesiology, pathology, and radiology). A chi-square statistic with 8 degrees of freedom was computed for the two by nine tables of sex by specialty area for each of the seven cohorts. The tendency to convergence as defined here would be supported by a decrease in the chi-square statistic, corrected for changes in population size, over time. Over the period 1970–1976, there was a consistent linear decrease in the values of the statistic as a function of time ($r = -.87$).

Figure 1 illustrates the convergence for those entering specialties with the largest number of incumbents. The graph displays trends in the ratio of the proportion of women to men entering a particular specialty. If, over time, women's selections

TABLE 2

Specialty of First Year of Graduate Medical Education, by Sex and Cohort*

Specialty	Percentage of Subjects						
	1970 (*N* = 705/ 7,527)†	1971 (*N* = 797/ 7,922)	1972 (*N* = 834/ 8,541)	1973 (*N* = 953/ 9,751)	1974 (*N* = 1,289/ 10,349)	1975 (*N* = 1,691/ 10,665)	1976 (*N* = 2,132/ 11,109)
Internal Medicine							
Men	27.49	29.79	32.61	33.26	32.95	34.74	34.38
Women	21.28	23.46	22.54	25.18	31.11	32.82	29.08
Pediatrics							
Men	7.72	8.08	8.14	7.93	7.90	8.26	7.73
Women	28.37	28.23	27.58	25.60	20.40	19.34	19.37
Family practice/ general practice							
Men	1.57	2.27	2.63	5.52	9.34	11.53	12.22
Women	.99	1.00	1.44	5.46	6.28	7.69	8.58
Obstetrics/ gynecology							
Men	1.34	2.21	3.54	4.02	4.36	5.05	4.69
Women	1.13	1.50	2.99	2.62	4.03	6.62	6.33
General surgery							
Men	13.55	14.55	14.75	15.35	15.21	14.96	13.38
Women	3.69	4.39	5.76	6.61	6.83	6.80	7.32
Surgical sub-specialties							
Men	.21	.18	.46	.82	.65	.8	.54
Women	.14	.00	.24	.21	.46	.53	.33
Psychiatry							
Men	1.45	3.13	3.14	3.04	3.05	3.77	4.21
Women	3.40	4.77	5.16	5.25	4.65	5.26	5.68
Neurology							
Men	.09	.11	.13	.17	.09	.42	.41
Women	.28	.00	.24	.63	.08	.41	.33
Dermatology							
Men	.03	.05	.06	.08	.04	.06	.00
Women	.14	.12	.12	.10	.08	.00	.00
Anesthesiology							
Men	.08	.04	.06	.35	.39	.08	.04
Women	.56	.12	.00	.52	.70	.18	.00
Pathology							
Men	1.69	1.98	2.07	1.91	2.23	2.43	2.38
Women	1.70	3.51	2.52	1.99	3.18	2.78	2.95
Radiology							
Men	.16	.11	.28	.47	.49	.14	.08
Women	.14	.12	.60	.73	.93	.06	.14
Flexible internship‡							
Men	44.21	37.11	30.96	25.55	20.86	14.16	14.84
Women	37.59	32.37	28.78	22.98	18.08	13.66	12.89
Other or unknown							
Men	.41	.35	1.18	1.50	2.39	3.48	5.08
Women	.57	.38	2.04	2.10	3.18	3.84	6.99

* Cohorts are based on year of medical school graduation.

† *N* = number of women/men within each cohort. Percentages total to 100 within each sex and cohort.

‡ Designation of the first year of graduate medical education changed in 1974 from "internship" to either categorical designation by specialty area or "flexible internship." All internships noted here are flexible. Categorical internships prior to 1974 have been coded in the specialty areas.

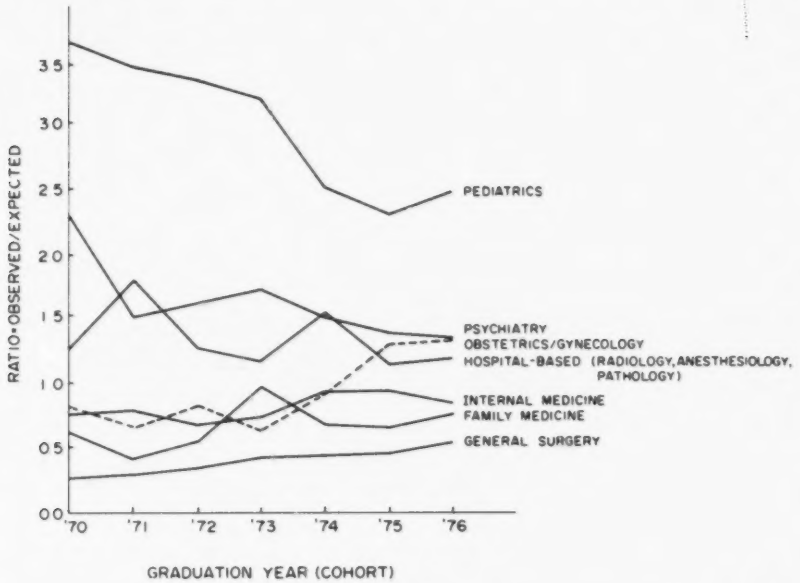

FIGURE 1

Trends in the ratio of observed to expected proportion of women in selected specialties, first year of graduate medical education. (Observed = proportion of all women in specialty; expected = proportion of all men in specialty.) Only one-specialty, obstetrics/gynecology, shows a reversal in preference by sex. It is indicated by a broken line.

tended to conform to the norms of the profession, the ratios would approach one, and the lines on the graph would tend to converge to one.

The figure exhibits a trend toward convergence. In particular, the specialties which women entered more frequently than men in 1970 (pediatrics and psychiatry) show substantial declines toward a ratio of one, and the specialties chosen less frequently by women than men (general surgery, family medicine, and internal medicine) show a gradual increase toward one.

Only one specialty in Figure 1 shows a reversal in preference by sex. In obstetrics/gynecology women were more likely than men to enter in 1975 and 1976, but this was not the case for earlier cohorts. Further, in the 1975 and 1976 cohorts women comprise a larger proportion of all entering residents in obstetrics/gynecology than would be expected based on their proportion in the cohort as a whole. Women were 17.2 percent of all obstetrics/gynecology residents in 1975 and 20.6 percent in 1976; in the same year they were 13.7 percent and 16.1 percent of all first-year residents.

LAST SPECIALTY

"Last specialty" is defined as the specialty of the last known year of GME for each individual. Whereas the last known GME specialty is more likely to represent individuals' actual areas of practice then is the first-year specialty, subsequent changes in specialty area may occur. Table 3 shows the percentages of men and women in each specialty area during their last known year of GME and also shows the percentages within each cohort who were still in residencies as of the last year of data collection

TABLE 3

Specialty of Last Year of Graduate Medical Education, by Sex and Cohort*

Specialty	Percentage of Subjects						
	1970 (12.45/ (6.10)‡	1971 (17.55/ 8.91)‡	1972 (24.06/ 16.79)‡	1973 (37.58/ 31.48)‡	1974 (60.60/ 60.51)‡	1975+ (84.84/ 82.79)‡	1976† (92.88/ 91.32)‡
Internal medicine							
Men	19.77	18.98	20.30	21.87	22.9o	29.26	31.50
Women	18.86	20.08	15.59	17.21	21.64	26.73	26.78
Pediatrics							
Men	7.20	6.93	6.82	6.80	6.99	7.68	7.59
Women	23.40	25.72	24.10	22.35	17.38	18.80	19.18
Internal medicine subspecialties§							
Men	7.98	9.81	11.62	10.72	7.87	1.51	.10
Women	5.53	6.90	9.95	9.13	7.22	2.13	.94
Pediatric subspecialties							
Men	48	.40	.42	.45	.33	.08	.00
Women	1.13	1.25	1.56	1.36	.54	.06	.00
Family Medicine							
Men	3.23	4.52	5.97	7.74	10.63	11.80	12.30
Women	1.98	2.01	3.96	5.67	7.45	7.92	8.77
Obstetrics/ gynecology							
Men	5.65	5.63	6.05	5.73	6.12	6.28	5.41
Women	2.69	4.39	5.52	4.41	6.67	7.98	7.36
Surgery							
Men	7.21	8.22	7.89	8.72	9.03	9.73	10.93
Women	2.98	2.63	4.20	5.14	5.20	5.08	6.19
Surgical subspecialties							
Men	17.91	16.17	14.10	13.36	11.76	10.21	6.22
Women	3.55	3.51	4.69	4.20	4.27	4.02	2.11
Psychiatry							
Men	6.76	7.06	5.84	5.47	4.96	4.88	4.91
Women	11.49	9.54	7.79	7.34	8.07	7.04	7.41
Neurology							
Men	2.02	2.32	2.18	2.01	1.58	1.72	1.20
Women	2.69	1.50	2.16	2.10	1.78	1.89	.98
Anesthesiology							
Men	2.90	2.81	2.66	2.64	2.83	2.80	1.77
Women	5.67	3.39	2.64	4.09	2.79	2.72	1.36
Pathology							
Men	2.80	3.21	2.98	2.54	2.80	2.66	2.63
Women	3.69	4.77	2.64	2.31	3.72	3.67	3.47
Radiology							
Men	7.28	5.93	4.48	3.80	3.58	3.54	3.39
Women	6.81	6.15	4.56	4.93	3.96	3.49	3.33
Other hospital based specialties**							
Men	.28	.20	.27	.15	.09	.03	.00
Women	.12	.12	.72	.10	.16	.00	.00
Flexible internship††							
Men	6.84	5.83	5.65	4.97	4.56	3.13	5.39
Women	4.54	4.39	5.39	4.09	3.88	3.13	3.99

TABLE 3—*continued*

Specialty	Percentage of Subjects						
	1970 (12.45/ (6.10)‡	1971 (17.55/ 8.91)‡	1972 (24.06/ 16.79)‡	1973 (37.58/ 31.48)‡	1974 (60.60/ 60.51)‡	1975† (84.84/ 82.79)‡	1976† (92.88/ 91.32)‡
Other or unknown							
Men	1.85	1.97	2.75	2.99	3.94	4.68	6.06
Women	4.68	3.64	4.56	5.56	5.28	5.32	8.11

* Cohorts are based on year of graduation from medical school. For total Ns, see Table 2.

† Members of the 1975 and 1976 cohorts may not have entered their final areas by the time these data were compiled. Low subspecialization rates and high proportions still in residency compared with earlier cohorts suggest data for the 1975 and 1976 cohorts do not reflect actual last year of GME.

‡ Proportion of men/women in residency as of 1977–78.

§ Includes dermatology.

** Includes primarily subspecialties of radiology and pathology.

†† See note for Table 2.

(1977–78). Specialty data for the 1975 and 1976 cohorts should be interpreted with caution, since the high proportions still in residencies and the lower rates of subspecialization compared with earlier cohorts suggest that last known specialty may not correspond to last GME specialty. This does not affect the test of convergence of male and female distributions, however.

Male members of the 1970 cohort were most likely to conclude their graduate medical educations in internal medicine or the surgical subspecialties (excluding obstetrics/gynecology). Women were most likely to be in pediatrics or internal medicine. In the 1974 cohort, the most recent cohort for which data on the last year of training are available, these choices were still the most likely, although internal medicine replaced pediatrics as the most frequent choice among women. Among men, family medicine was selected nearly as often as the surgical subspecialties in the 1974 cohort. The interim data for the 1975 and 1976 cohorts show family medicine supplanting the surgical specialties as the second most popular specialty among men and also increasing in popularity among women. Overall convergence in Table 3 was tested using a chi-square statistic, and the convergence hypothesis was upheld.

The chi-square statistic was computed in the same manner described earlier, except that 11 specialty areas were defined. In the last GME year there were sufficient numbers in the subspecialties of both internal medicine and surgery to warrant their inclusion as separate categories. The convergence hypothesis is upheld, as the chi-square statistic, corrected for changes in population size, decreased as a function of time over the 1970-1974 period ($r = -.89$).

As in the trends associated with specialty of the first GME year, the ratios of the proportion of women to men in the specialties of the last year of GME tend to converge to one over time. Pediatrics shows a dramatic decline toward one, while family medicine, surgery, and the surgical subspecialties show a gradual increase toward one. Again, obstetrics/gynecology reveals a transformation from a specialty in which men were more likely to conclude GME in the 1970 through 1973 cohorts to one in which women were more likely to conclude GME in the 1974 and later cohorts.

Thus, the distributions of men and women across specialties are becoming more similar, but sex differences in specialty selection still exist. Viewing the specialty of the last GME year for the 1974 cohort, it is possible to identify those specialties in which women were overrepresented as compared with their proportion

in the 1974 cohort as a whole. In the 1974 cohort women were 11 percent of the population but were overrepresented in pediatrics (where they were 24 percent of all residents), pediatric subspecialties, psychiatry, neurology, obstetrics/gynecology, and the hospital-based specialties (particularly pathology and radiology). Conversely, women were notably underrepresented in surgery (where they were 7 percent of all residents), the surgical subspecialties, and family medicine. Despite the trend toward convergence in the patterns of specialty selection by sex, there remain several areas in which women constitute an unexpectedly high or low proportion of residents.

SPECIALTY MIGRATION

Individuals frequently change specialties during GME, either by switching to an unrelated specialty or by subspecializing. Switching may result from dissatisfaction with the original specialty choice or assignment and may contribute to less efficient completion of GME. Subspecialization may also prolong GME, as certain subspecialties require longer training. The present data reflect patterns of specialty migration by sex for the cohorts observed.

Specialty switching is most likely to occur between the first and second GME years. For purposes of this analysis a "switch" is defined as a change of specialty to either an unknown specialty or to one that is not a subspecialty of the entering specialty. (Changes after "flexible internships" are excluded.) One caveat is in order: switching from internal medicine should be interpreted with caution, as some residents use the first year in internal medicine as a general clinical year from which to branch to any number of other areas.

Table 4 presents data revealing the frequency of switching between the first and second years of GME. Overall, approximately 20 percent of all residents switch specialties, although the frequency of switching among men is declining over time. The data show that women switch slightly more frequently than men, with the smallest sex difference occurring in pediatrics. Women are consistently more likely than men to switch from general surgery. Further, women are more likely than men to use internal medicine as a first clinical year and then switch to another area in the second year. No consistent pattern of change in switching by sex emerges from these data. In only two specialties (psychiatry and pediatrics) does it appear that male and female switch rates are tending to converge.

Subspecialization rates by sex indicate whether one sex is more likely to produce subspecialists as opposed to generalists. Since Table 2 has shown that men and women enter the various "source" specialties with different probabilities, it is most informative to examine subspecialization with reference to the original specialty. Table 5 presents such a view of subspecialization, showing the proportions of men and women, by cohort, who subspecialized within each of the areas of internal medicine, general surgery, and pediatrics between the first and last years of GME. (The 1975 and 1976 cohorts are excluded from the table since subspecialization data would be incomplete and possibly misleading for these more recent cohorts.)

For each of the areas examined in Table 5, women are generally less likely than men to subspecialize. Even though women are more likely than men to enter pediatrics (Table 2), they enter pediatric subspecialties less often than men in three out of five cohorts examined. However, Table 5 reveals that the gap between male and female subspecialization rates narrowed during the study period in the area of internal medicine, although not in pediatrics or surgery. (Convergence of subspe-

TABLE 4

Specialty Switching Between Years One and Two, by Sex and Cohort*

Year One Specialty	Percentage of Subjects					
	1970	1971	1972	1973	1974	1975
Internal medicine						
Men	30.14	30.04	23.12	20.51	21.13	20.67
Women	29.08	29.15	26.75	23.77	25.27	25.50
Pediatrics						
Men	16.55	16.59	13.69	10.14	8.55	11.55
Women	20.00	15.07	8.60	10.09	10.98	10.06
Family medicine						
Men	50.89	32.05	8.56	10.62	9.53	9.43
Women	66.67	71.43	0.00	24.49	11.59	12.39
Obstetrics/gynecology						
Men	9.57	12.50	7.34	8.51	7.13	10.37
Women	50.00	0.00	0.00	4.17	10.42	15.69
General surgery						
Men	13.69	9.74	8.90	9.98	10.53	10.77
Women	26.09	32.36	10.64	16.66	15.48	21.71
Psychiatry						
Men	2.91	2.15	2.39	6.64	4.98	7.37
Women	0.00	8.33	9.52	6.38	5.08	11.76
Pathology						
Men	11.97	12.67	10.06	12.15	10.60	14.52
Women	16.67	25.93	10.00	26.32	8.11	19.57
All specialties†						
Men	23.30	21.21	17.41	16.25	17.07	18.58
Women	23.74	22.50	16.73	17.98	19.33	22.08

* Within each graduation cohort, the proportion of men and women in each year-one specialty area who switched to an unrelated area in year two. "Unrelated areas" are defined as any specialty which is not a subspecialty of the Year One specialty. The 1976 cohort is excluded from this table since the data on their second year of graduate medical education contained substantial missing information.

† Excludes those in flexible internships in year one, since virtually all of those individuals switch between years one and two.

cialization rates of men and women in internal medicine, pediatrics, and surgery was examined by calculating the sex difference in subspecialization rates and inspecting the data for trends. This difference tended strongly toward zero in internal medicine but did not decrease consistently in pediatrics or surgery.)

YEARS/GAPS IN TRAINING

The total number of years spent in graduate medical education and the frequency and duration of gaps in residency training reflect individuals' efficiency in completing GME as well as their availability for full-time practice. Table 6 displays data on the average number of years men and women spend in GME, the proportion of persons with gaps in residency training, and the average number of months spent in gaps. The precise nature of the gaps and the reasons for suspension of residency training are not discernible from these data.

The patterns in Table 6 show close similarity between male and female physicians. In terms of total known length of training, both sexes had spent slightly more than three years, on average, in GME during the period of observation.

TABLE 5

Subspecialization During Graduate Medical Education, by Sex and Cohort*

Year One Specialty	Percentage of Subjects				
	1970	1971	1972	1973	1974
Internal medicine†					
Men	18.08	22.25	25.77	24.88	18.65
Women	8.67	13.37	22.99	19.67	14.71
Pediatrics‡					
Men	4.82	3.91	4.45	5.30	4.03
Women	3.50	4.44	5.24	4.12	2.67
General surgery§					
Men	51.16	49.17	48.81	43.62	39.09
Women	35.71	22.86	31.25	22.22	27.55
Total**					
Men	25.26	26.90	28.76	27.22	22.08
Women	6.87	9.62	15.09	13.02	12.22

* Within each graduation cohort, the proportion of those men and women in a year-one specialty area who were in a subspecialty of that area in the last year of their graduate medical education (1975 and 1976 cohorts excluded).

† Subspecialties of internal medicine include: dermatology, allergy, immunology, cardiology, gastroenterology, rheumatology, hematology, nephrology, oncology, endocrinology, and geriatrics. Neurology and psychiatry are excluded.

‡ Subspecialties of pediatrics include: adolescent medicine, neonatal-perinatal medicine, and pediatric allergy, cardiology, endocrinology, hematology, oncology, and nephrology.

§ Subspecialties of general surgery exclude obstetrics and gynecology.

** Proportion subspecializing among those who had year-one residencies in internal medicine, pediatrics, or general surgery.

TABLE 6

Years and Gaps in Graduate Medical Education, by Sex and Cohort*

Training Years and Gaps	1970 (36.20/ 29.93)†		1971 (32.51/ 25.35)†		1972 (20.68/ 22.42)†		1973 (14.91/ 16.26)†		1974 (9.40/ (10.09)†	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Total number of years in graduate medical education										
Men	3.87	1.48	3.76	1.39	3.62	1.41	3.43	1.28	3.03	1.06
Women	3.69	1.42	3.67	1.35	3.46	1.41	3.30	1.24	2.99	1.09
Total number of months in gaps										
Men	5.79	10.92	5.23	10.17	2.99	7.34	1.99	5.70	0.99	3.76
Women	5.61	12.01	4.50	10.12	3.30	7.87	2.30	6.20	1.04	3.76

* The 1975 and 1976 cohorts are excluded from this table since their graduate medical careers are not complete.

† Proportion of men/women with gaps in training.

Women spend slightly fewer months than men, on average, and the small sex difference is observed to be decreasing. Thus, the slightly greater tendency of women to switch specialties does not prolong their graduate careers, in the aggregate, beyond those of men.

The proportion of physicians experienc-

ing gaps in their residency training may be declining in general (from about 30 percent in the 1970 cohort to 10 percent in the 1974 cohort), but the smaller proportions for recent cohorts may reflect only the fact that they have been followed for fewer years. Nevertheless, male and female patterns are converging. Men formerly displayed a greater tendency than women to suspend training (probably due to military service). Beginning with the 1972 cohort, women displayed a slightly greater tendency than men to suspend training, although the apparent universal decline in the tendency to suspend training resulted in smaller sex differences over time.

The average length of gaps in graduate training is the third variable examined in Table 6. Here the magnitude of the sex difference is small, less than one month on average, although the amount of variance is high. Beginning with the 1972 cohort, women spent slightly more time in training gaps, with the average sex difference less than one month. Thus, convergence appears to have been nearly attained on this variable, as women and men are equally efficient in confining gaps in training to periods not exceeding a few months.

Discussion

This study shows that for graduates of U.S. medical schools during the period of 1970 to 1976, the career behavior of men and women tended to become more similar. As this was a period of marked increase in the proportion of women in entering and graduating medical school classes, the trends observed indicate that the recent influx of women has not substantially altered physician career patterns.

The specific behaviors on which sex differences were observed to diminish were specialty choice of the first and last graduate medical education years, frequency of specialty switching between the first and second years of GME (in psychiatry and pediatrics only), frequency of subspecialization in internal medicine, frequency of breaks in the GME process, length of these breaks, and total length of GME. These behaviors have important implications for planning: they reveal converging specialty distributions and suggest that future male and female career patterns will become more similar.

The inconsistent findings across specialty areas with regard to switching and subspecialization rates suggest that the specialty areas themselves become the salient social contexts in which graduate physicians make career decisions. The specialties range from those with a small minority of women (for example, surgery and its subspecialties) to those in which women are a sizable subgroup (for example, pediatrics and its subspecialties). Thus, sex differences within different specialties would be expected to vary, following Kanter's (11) argument.

If this were true, the rates of specialty migration among men and women should be converging in those source specialties in which women constitute a larger proportion of the residents. The apparent switching patterns in psychiatry and pediatrics support this contention, and the continued disparity between male and female switch rates in surgery is consistent with the argument. Whereas the social context within medical schools has changed sufficiently to encourage more women to enter surgical residencies (as suggested by the data in Table 2), the surgical area itself is still highly male and has not yet "tilted" sufficiently to support women's careers as often as men's.

In addition, the somewhat greater susceptibility of women to switching suggests either a different opportunity structure for women (for example, discriminatory practices in certain areas discouraging subspecialization) or a sex difference in coping with dissatisfaction or uncertainty in the

early graduate career. For example, the frequency with which women enter internal medicine in the first graduate year and switch from internal medicine in the second year suggests that women may be more likely than men to postpone the selection of a specialty area.

Two trends in the present data contradict the convergence hypothesis, however. The fluctuating rate at which women subspecialize within pediatrics is inconsistent with the slight trend toward greater subspecialization among women in general and with the relatively high proportional representation of women in pediatrics. Further, the emergence of obstetrics/gynecology as a specialty which women are more likely than men to enter suggests a reversal, rather than convergence, of the traditional pattern of sex differences.

Both of these findings appear to reflect recent attitudinal shifts among graduate women physicians toward providing primary care services to women and children. Gough (12) found that women were significantly more likely than men to prefer obstetrics/gynecology in 1971, although the present data demonstrate that women began entering obstetrics/gynecology in greater proportion than men in 1975. Data from a study (13) of specialty preferences among the 1976 graduates of U.S. medical schools show that among the potential primary care areas (that is, family practice, general internal medicine, pediatrics, and obstetrics/gynecology), men were more likely to prefer family practice and internal medicine, whereas women were more likely to prefer pediatrics and obstetrics/gynecology. The evolving interest in primary care among women may in part reflect more liberal patient attitudes toward female physicians.

The predominant pattern observed in this analysis is one of convergence of male and female behavior patterns rather than continued divergence or dramatically different patterns for the profession as a whole. Two implications for the roles of women and for the development of professions are apparent. First, increasing the proportionate representation of women in the profession through preferential recruitment or affirmative action would appear to expose women to similar opportunity structures as men and to result in their behavior becoming more similar to that of men. Second, since behavior of men and women tends to converge under these conditions, new directions for the profession are not to be expected as a consequence of altering the sex composition of the profession. Rather, the proportional shift in sex composition portends career patterns less divergent than those which formerly characterized male and female physicians.

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Work Patterns, Practice Characteristics, And Incomes of Male and Female Physicians

Joel D. Bobula

Abstract—The purpose of this study was to examine differences in work patterns and practice characteristics of male and female physicians using data from the American Medical Association's Twelfth Periodic Survey of Physicians conducted in 1978. Following are some of the major findings: Male physicians were more likely than female physicians to work either in the traditional solo, fee-for-service practice or in a group-practice setting. Female physicians were more likely to be found in some other setting such as a clinic, student health center, local government agency, or corporation and were more frequently reimbursed on a salary basis. Male physicians worked more hours per week (50.9 versus 43.7) and more weeks per year (47.1 versus 45.9) and were reimbursed at a higher annual level ($62,700 versus $43,700) than their female counterparts. Even if women worked the same number of hours per week and weeks per year as men, the mean income from medical practice for females would be 83 percent of the mean income for males. The differential, however, diminished over the five-year period between 1972 and 1977.

The number of women in the field of medicine has increased dramatically in recent years, from 21,404 in 1967 to 41,459 in 1977 (1). Growth in the number of female applicants to medical school has been even more impressive. The percentage of women entering the first year of medical school rose from 9.2 percent in academic year 1969–70 to 25.7 percent in 1977–78 (2).

Given the recent and projected expansion of the supply of female physicians, it is important to examine whether the changing sex composition of physicians will have any effect on the practice characteristics and work patterns of the physician labor force. Previous investigators (3, 4) have found that women physicians tend to practice shorter hours and earn less income than male physicians. In this paper the author examines data from a recent survey of a sample of nonfederal, office-based physicians to determine whether any systematic differences exist between the sexes in each of the following areas: type of practice, reimbursement system, number of hours worked per week and weeks worked per year, patient characteristics, and average income for selected specialty categories.

The first section of this paper describes the data source employed in the study. The second section presents the survey findings as well as a comparison of the results with previously published findings to determine whether any changes in work patterns and

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practice characteristics have occurred over time. The final section contains a discussion of the potential effect the increase in female physicians may have on the manner in which physicians organize their practice, systems of reimbursement, and supply of services.

Data

Data for the analysis is from the American Medical Association's Twelfth Periodic Survey of Physicians conducted in 1978. (The author reported on the survey methodology in 1979 [5].) Two samples were drawn from the AMA's Physician Masterfile, which contains current and historical information on every known physician in the United States. The first was a random sample of approximately 5 percent of all nonfederal, office-based physicians in the United States. The second was a sample of an additional 2,099 female physicians. This sample was required because of the small number of female physicians in the original 5 percent sample. The additional physicians were necessary to ensure sufficient representation in selected demographic and specialty categories for statistical purposes.

The Physician Masterfile has some limitations. A number of investigators have attempted to measure the reliability of AMA physician data. Results of these validation studies (a summary of the studies is contained in an article by Goodman and Eisenberg [6]) indicate that physician location data contained in the masterfile are 93.4 to 97.9 percent accurate. Specialty designations could not be validated for 8.6 to 11.9 percent of the specialties listed on the masterfile. The data item with the largest variance was professional activity (for example, office based or hospital based). The studies indicated that 9.7 to 17.6 percent of the physicians' records with respect to professional activity could not be validated. As a result, a number of ineligible physicians were inadvertently included in the samples whose responses were subsequently disregarded.

Self-administered questionnaires were mailed to each of the samples in the spring of 1978. Follow-up attempts continued through the summer. By September 1978, 4,465 usable questionnaires had been returned from the main sample, and 972 usable responses had been obtained from the female oversample.

Female physicians in the sample (as in the population of office-based physicians) were underrepresented in the surgical specialties and overrepresented in the specialties of pediatrics and psychiatry. Female respondents also tended to be younger and tended to locate in large metropolitan areas of the United States, reflecting the fact that women have only recently gained entry to medical school in significant numbers and the general trend among younger physicians to practice in major urban areas.

Results

Survey findings are presented for each of the following categories: practice characteristics, work patterns and income from medical practice, and patient characteristics. This is followed by a comparison of the survey results with previously published findings.

PRACTICE CHARACTERISTICS

Male physicians were more likely than female physicians to work in the traditional solo or group-practice setting (Table 1). Women were more often found in some other setting, such as a clinic, student health center, local government agency, or corporation.

Physicians were asked to indicate the percentage of their 1977 net income from medical practice that was derived from each of the following sources: revenue from own patients in a solo or "expense

sharing only" practice arrangement, salary, share of practice income, and other. The source from which the physician indicated the majority of his or her income was derived was used to classify each physician by method of reimbursement. Men were more likely to be reimbursed on a fee-for-service basis or to share the income of a group practice on some predetermined basis (Table 1). This finding is expected since men were also more likely to work in a solo or group practice setting wherein fee-for-service and income-sharing arrangements are the most common methods of reimbursement. Women, on the other hand, were more likely to be reimbursed on a salary basis.

WORK PATTERNS AND INCOME

Male physicians worked more hours per week and more weeks per year on average than female physicians (Table 2). This finding is consistent across specialties, and the difference is statistically significant for almost every specialty. (For hours of work only the difference between male and female anesthesiologists was not statistically significant. For weeks practiced, only the differences for surgeons and radiologists were not statistically significant. For income from medical practice, only the differences for surgeons and anesthesiologists were not significant.) If male and female physicians had been equally represented in the nine specialty categories depicted in Table 2, males would have worked an average of 50.9 hours in their most recent complete week compared with 43.7 hours for female physicians. Similarly, males would have worked an average of 47.1 weeks in 1977 compared with 45.9 weeks for females.

Mean net income from medical practice shows a similar pattern. If the distribution of male and female physicians across specialty categories had been identical, males would have earned an average of $62,700 in 1977. Female physicians would have earned an average of $43,700 or roughly 70 percent of the mean income from medical practice for males. The actual difference between male and female physicians is slightly larger than is reported. This is due to the fact that women are overrepresented in those specialties with lower mean incomes such as pediatrics and psychiatry. If females worked the same number of hours per week and weeks per year as

TABLE 1

Distribution of a Sample of Office-Based Patient-Care Physicians by Type of Practice, Method of Reimbursement, and Sex, 1978

Item	Male		Female	
	No.	Percent	No.	Percent
Type of practice				
Solo	2,043	49.5	413	43.3
Partnership or group	1,755	42.5	291	30.5
Other	322	8.0	249	26.1
Total	4,130	100.0	953	100.0
Method of reimbursement				
Fee-for-service	2,285	59.3	434	49.7
Salary	957	24.8	342	39.2
Share of practice income	511	13.2	63	7.2
Other	103	2.7	34	3.9
Total	3,856	100.0	873	100.0

SOURCE: Twelfth Periodic Survey of Physicians, 1978, American Medical Association Center for Health Services Research and Development.

males, the ratio of female physician income to male physician income would have increased from 70 percent to 83 percent. Why such a differential continues to exist is unclear. One could argue that the differential reflects discrimination against female physicians. However, the differential may also be due to the absence of a number of control variables such as differing levels of work experience or differences in the quality and/or extent of undergraduate and graduate medical education.

PATIENT CHARACTERISTICS

On the average, the patients of female physicians were found more often to be female, nonwhite, and younger than the patients of male physicians (Table 3). Although the differences are not large, the findings are fairly consistent across specialties, and the differences are often statistically significant. (For certain specialties, such as general/family practice and internal medicine, the differences are statistically significant for all three categories. For radiologists the differences are not statistically significant, in part due to the small number of female radiologists in the sample.) As would be expected, this pattern is more pronounced for primary care physicians, who have more patient contact, than for physicians in secondary and tertiary care specialties such as radiology, anesthesiology, and surgery.

For all specialties the mean percentage of female patients was 62.4 percent for women physicians compared with a mean of 59.5 percent for men. The percent of patients who were white was 83.1 percent for male physicians and 77.5 percent for women. The percent of patients over the age of 65 was 30.5 and 25.0 percent for men and women physicians, respectively.

TRENDS OVER TIME

Previous studies have been conducted to examine a subset of the variables under investigation in this study. Data on male and female work patterns and income from medical practice were collected by the American Medical Association's Center for Health Services Research and Development in 1973. Information on the number of hours practiced in the most recent complete week, number of weeks worked in 1972, and the mean net income from medical practice in 1972 for male and female physicians have been reported by Kehrer (3). In general, the differences in income, hours of work, and weeks practiced between male and female physicians have decreased from 1972 to 1977 for these variables.

The difference in the number of hours worked per week was 9.6 hours in 1973. The findings of this study indicate that the difference had decreased to 7.2 hours. The decrease was due almost entirely to an increase in the number of hours worked by female physicians—from 41.8 hours per week in 1973 to 43.7 hours in 1978. The difference in weeks worked declined slightly over the five-year time period, from 1.3 weeks to 1.2 weeks.

The income differential between males and females also declined during this period. Table 4 contains information on the mean net income per hour from medical practice for male and female physicians in nine specialty categories over the 1972 to 1977 time period. The ratio of female to male hourly income increased from 75.5 percent in 1972 to 83.2 percent in 1977.

Conclusions

This study examined differences in work patterns and practice characteristics of male and female physicians. It was found that female physicians were less likely to work in traditional practice settings, worked fewer hours per week, were reimbursed at a lower annual level, and had a

TABLE 2

Mean Number of Hours Worked Per Week and Weeks Worked Per Year and Net Income from Medical Practice, by Specialty and Sex

Specialty*	Total No. of Hours Practiced in Most Recent Complete Week				Mean No. of Weeks Practiced in 1977				Mean Net Income from Medical Practice in 1977			
	Male		Female		Male		Female		Male		Female	
	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
General/family practice	49.9	0.5	41.6	1.3	47.3	0.2	45.2	0.7	51,400	1,100	32.900	2,100
Internal medicine	53.2	0.5	46.0	1.6	47.2	0.2	46.7	0.8	62,300	1,300	37.200	3,100
Surgery	53.3	0.5	47.7	2.8	47.0	0.2	46.4	1.0	74,200	1,400	60,600†	7,800
Pediatrics	49.9	0.8	39.1	1.1	47.2	0.4	45.7	0.5	50,600	1,600	31,000	1,500
Obstetrics-gynecology	51.7	0.9	42.0	1.7	47.7	0.3	45.5	0.9	71,500	2,200	41.900	3,100
Radiology	48.0	0.6	41.2	2.7	47.1	0.3	47.7	1.1	78,000	2,900	56,200†	6,700
Psychiatry	46.5	0.8	37.4	1.0	47.2	0.3	46.2	0.5	50,500	1,400	32,600	1,900
Anesthesiology	50.8	1.0	47.6	1.7	46.1	0.5	43.6	1.2	67,500	2,900	59,600	5,000
Other	46.6	0.7	41.9	1.4	46.7	0.3	44.5	0.8	57,100	1,700	38,400	2,300
All specialties	50.9		43.7		47.1		45.9		62,700		43,700	

* The mean for all specialties is a weighted mean. The mean for each specialty was weighted by the proportion of physicians in the population of office-based physicians in that specialty.

† Fewer than 30 observations.

SOURCE: Twelfth Periodic Survey of Physicians, 1978, American Medical Association, Center for Health Services Research and Development.

TABLE 4

Mean Net Income per Hour from Medical Practice by Specialty and Sex, 1972 and 1977

Specialty*	Mean Net Income per Hour (In dollars)				Ratio of Female to Male Hourly Income	
	1977		1972		1977	1972
	Male	Female	Male	Female		
General/family practice	21.80	17.50	17.60	11.20	80.3	63.6
Internal medicine	24.80	17.30	18.90	12.10	69.8	64.0
Surgery	29.60	27.40†	24.00	21.50†	92.6†	89.6†
Pediatrics	21.50	17.30	18.30	12.00	80.5	65.6
Obstetrics-gynecology	29.00	21.90	22.70	17.30	75.5	76.2
Radiology	34.50	28.60†	28.70	21.70†	82.9†	75.6†
Psychiatry	23.00	18.90	18.50	15.30	82.2	82.7
Anesthesiology	28.80	28.70	21.60	16.30	99.7	75.5
Other	26.20	20.60	22.60	16.80	78.6	74.3
All Specialties	26.20	21.80	20.80	15.70	83.2	75.5

* The mean for all specialties is a weighted mean. The mean for each specialty was weighted by the proportion of physicians in the population of office-based physicians in that specialty.

† Fewer than 30 observations.

SOURCES: Twelfth Periodic Survey of Physicians, 1978, American Medical Association Center for Health Services Research and Development. Also, Kehrer (3).

slightly different composition of patients than male physicians.

The rapid increases in the number of female medical school enrollees and the subsequent increase in the number of practicing female physicians could be expected to have an effect on the manner in which physicians organize their practices in the future and also on the future supply of physicians' services. For example, physicians in the future may be willing to practice in less traditional organizational settings and to be reimbursed in a different manner than the traditional solo, fee-for-service system. Also physician workweeks could be shorter, with the result that there would be fewer physician services and increased demand for more physicians.

Such an interpretation, however, rests on the assumption that future career choices of female physicians will be similar to the career choices of female physicians in the past. A plausible explanation (although not the only one) for the finding that women have more often chosen salaried employment in less traditional organizational settings and have worked fewer hours is that historically women have assumed a disproportionate share of family and household responsibilities. Even if this explanation is correct, it is not clear that women who graduate from medical school in the future will necessarily balance career and family responsibilities in the same manner as their predecessors. A comparison of the findings of this study with previously published results indicate that differences in work patterns and income are diminishing over time.

Thus, it would appear to be inappropriate at this time to infer that the rapid increases in the supply of female physicians will have a significant impact on either the organization of physicians' practices or the supply of physicians' services. Future research should be directed at monitoring the findings and trends outlined in this study as more women enter the physician labor force. Similarly, more attention must be devoted to gaining a better understanding of the cause or causes of the male-female income differential and the factors that have caused the differential to diminish over time.

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DATAGRAM

State Funds in Support of Public and Private Medical Schools, 1979

For the 1978–79 school year, 43 states and Puerto Rico made available $1,080,000,000 to the medical schools located in the state or jurisdiction providing the funds (Table 1). Seventy-three of the 75 public medical schools received $1,001,000,000 from 40 states and Puerto Rico. Information was not available on the funds provided by the state of Washington to the University of Washington School of Medicine; and the Uniformed Services University of the Health Sciences is supported by the federal government. Of the 51 private medical schools in existence in 1979, 35 received $79 million from 16 states where the schools are located; 16 private medical schools located in seven states, Puerto Rico, and the District of Columbia did not receive funds from the governments in those jurisdictions (Howard University College of Medicine in the District of Columbia is funded by the federal government).

In addition to the $1,080,000,000 provided by governments to the medical schools located in their jurisdictions, $2.4 million was paid to seven public medical schools (not including the University of Washington) and $2.2 million to four private medical schools through regional education boards and bilateral contract agreements. Those state funds were paid to schools located outside the state providing the funds for the enrollment of the state's residents.

Information on state support of medical schools was reported in the Liaison Committee on Medical Education (LCME) Annual Medical School Questionnaire Part I-A—Medical School Financing. The data in Table I do not include state government grants and contracts and, where accounting procedures permit, exclude state funds for the support of teaching hospitals and clinics. The coverage of state funds to public medical schools includes, however, the support of medical school programs provided by the parent university but paid for out of appropriations from the state to the parent university.

In the 1976 and 1977 reviews of state support to medical schools (March 1976 and July 1977 issues of this journal), a state-by-state compilation was shown of the state funds to public medical schools per full-time equivalent student enrolled. This ratio is no longer included, because it is no longer believed to provide a useful index. The schools vary greatly in the degree to which they have access to other sources of income to support their operations, and the scope of state-supported activities differs widely among the schools, often including medical and health programs as well as educational programs. It should also be noted that state funds to developing schools are included for North Carolina, South Carolina, Tennessee, and West Virginia. However, as the full complement of students has not yet been enrolled, the ratio of funds per student is abnormally high.

The sources for the comparison measures shown in Table 1 are: state residents--Bureau of the Census, Current Population Reports, *Population Estimates and Projections*, Series P-25, No. 876; personal income by state—U.S. Department of Commerce, *Survey of Current Business*, April 1980.

Generally, state funds to private medical schools have been provided to encourage the private medical schools to enroll residents of their state, with the amount of the support being based on the number of residents enrolled. The following is a summary of the 1979 programs for the support of private medical schools located in the state providing the funds.

Florida—Capitation allowance of $10,000 for each Florida resident enrolled in the M.D. program and $12,000 for each Florida resident enrolled in the Ph.D. to M.D. degree program.

Georgia—Through the Southern Regional Education Board, capitation allowance of $7,500 for each Georgia resident enrolled over a base period number; in addition, a special appropriation to the developing private school.

Illinois—Through the Illinois Board of Higher Education, capitation allowance, up to a ceiling amount, of $4,200 per year for Illinois residents enrolled in a four-year program and $5,600 a year for

TABLE 1

State Funds in Support of Public and Private Medical Schools Located in the State, 1979

State and Other Area	Public Medical Schools			Private Medical Schools	Amount of State Funds to Public and Private Medical Schools	
	Total	Funds Provided Directly to Medical School	Funds Provided Through Parent University		Per State Resident	Per $10,000 Personal Income
	(In thousands of dollars)					
Total	$1,000,613	$883,779	$116,834	$79,446	$ 5.07	$ 5.85
Alabama	42,913	41,832	1,081		11.51	16.32
Arizona	14,339	14,339			6.04	7.05
Arkansas	8,507	8,507			3.93	5.75
California	102,704	80,893	21,811		4.60	4.56
Colorado	8,205	8,205			3.03	3.30
Connecticut	11,613	11,613			3.72	3.74
Florida	26,047	26,047		5,825	3.68	4.21
Georgia	17,426	12,239	5,187	1,837	3.80	5.00
Hawaii	7,087	6,256	831		7.86	8.11
Illinois	48,406	32,951	15,455	6,742	4.91	5.00
Indiana	21,872	21,872			4.06	4.66
Iowa	12,919	12,919			4.45	5.18
Kansas	29,183	29,183			12.43	13.60
Kentucky	16,918	16,918			4.85	6.53
Louisiana	24,682	24,682		619	6.36	8.42
Maryland	14,518	7,862	6,656	356	3.59	3.92
Massachusetts	12,242	12,242		286	2.17	2.46
Michigan	48,490	41,179	7,311		5.28	5.68
Minnesota	19,899	18,830	1,069	1,160	5.23	5.92
Mississippi	13,339	13,339			5.53	8.91
Missouri	13,919	11,711	2,208		2.87	3.52
Nebraska	14,008	12,599	1,409		8.93	10.67
Nevada	1,474	1,474			2.21	2.06
New Hampshire				90	.10	.12
New Jersey	32,056	25,885	6,171		4.38	4.51
New Mexico	8,570	8,570			7.05	9.47
New York	64,411	58,475	5,936	13,794	4.41	4.87
North Carolina	30,132*	30,132		2,274	5.82	7.85
North Dakota	6,071	6,071			9.30	11.89
Ohio	43,994	42,216	1,778	4,841	4.55	5.19
Oklahoma	13,000	13,000			4.57	5.46
Oregon	10,039	6,628	3,411		4.09	4.49
Pennsylvania	3,389	3,389		23,012	2.24	2.63
Puerto Rico	8,817	3,315	5,502		2.67	9.11
Rhode Island				1,000	1.07	1.30
South Carolina	25,200*	22,534	2,666		8.68	12.23
South Dakota	2,879	2,879			4.17	5.70
Tennessee	23,265*	12,625	10,640		5.37	7.28
Texas	128,290	119,928	8,362	12,693	10.81	12.18
Utah	5,496	5,496			4.17	5.60
Vermont	3,910	2,297	1,613		8.03	10.89
Virginia	31,407	27,250	4,157	1,208	6.30	7.29
Washington†						
West Virginia	11,684*	14,104	3,580		9.50	12.60
Wisconsin	11,293	11,293		3,709	3.20	3.78

* Includes state appropriations to the developing public medical schools in the state; these schools have not yet reached their planned full medical and other student enrollment.

† Data not available.

Note: State funds to public medical schools have been reduced in those instances where tuition and other medical school income have reverted to the state government treasury. See text for sources of data underlying the state funds per resident and per personal income.

Illinois residents enrolled in a three-year M.D. degree program.

Louisiana—Capitation allowance of $5,000 for each Louisiana resident enrolled in the M.D. degree program, for up to 50 residents per class. Due to budgetary consideration, the actual allowance has been less than $5,000 per resident.

Maryland—Capitation allowance per full-time equivalent student equal to 17.5 percent of the state appropriation to the public four-year colleges per full-time equivalent student.

Massachusetts—Through the New England Board of Higher Education, capitation allowances to two private medical schools of $9,300 for the enrollment of up to 21 Massachusetts residents.

Minnesota—Capitation allowance of $8,000 for each Minnesota resident up to a ceiling of 40 students per class.

New Hampshire—Capitation allowance of $7,500 for each New Hampshire resident.

New York—Funds to private medical schools through three types of contractual arrangements: (*a*) enrollment expansion aid—$3,500 per year for New York state residents admitted from foreign medical schools under the "Fifth Pathway" program or through the Coordinated Transfer Application System; (*b*) capitation allowance—$2,000 per full-time student; 70 percent of school's entering class must be New York state residents for the school to receive all of the capitation allowance, and the capitation award decreases proportionately for a less than 70 percent resident student enrollment; (*c*) Bundy plan—$3,100 for each M.D. and Ph.D. graduate and $650 for each master's degree graduate, except for students counted under (*a*).

North Carolina—Capitation allowances to the two private medical schools for each North Carolina resident enrolled. One school receives $4,500 plus $500 for a special scholarship fund for North Carolina residents; the other school receives $7,000 plus $1,000 for the scholarship fund.

Ohio—State level of support per medical student equal to the state appropriation per medical student to the public medical schools in the state.

Pennsylvania—Capitation allowances of $4,000 to each of the four private schools and varying levels of support provided to the two state-related schools.

Rhode Island—State level of support is not conditioned upon student residence in the state, but one-fourth of the students are state residents.

Texas—State level of support based upon the state appropriations, per medical student, to the public medical schools in the state. An informal agreement provides that 70 percent of each entering class be state residents.

Virginia—Capitation allowance of $5,333 per student.

Wisconsin—Capitation allowance of $8,327 for each Wisconsin resident.

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NOTE

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